

line 33, delete "reference" and insert therefor

--Reference--;

Page 17, line 2, delete "genoma" and insert therefor

-- genome --;

line 3, after "Finally" insert -- , --;

line 6, after "Particularly" insert -- , --;

line 10, after "defined" delete ", of a";

B6
Page 20, line 3, after "virus" insert --, which has been
designated Human Immunodeficiency Virus Type 1 (HIV-1) --.

IN THE CLAIMS:

Please cancel claims 1-3.

Please add the following claims:

Rule 126
--13.// A cloned DNA sequence of Human Immunodeficiency
Virus Type 1 (HIV-1), wherein the DNA is free of particles of
said virus and the DNA contains at least a portion of the se-
quence:

B6
241
CTAGC

250 260 270 280 290 300
GGAGGCTAGA AGGAGAGAGA TGGGTGCCAG AGCGTCAGTA TTAACGGGG GAGAATTAGA
310 320 330 340 350 360
TCGATGGAA AAAATTGGT TAAGGCCAGG GGCAGAGAAA AAATATAAT TAAAACATAT

370 380 390 400 410 420
 ACTATGGCA AGCAGGGAGC TAGAACGATT CGCTGTTAAT CCTGGCCTGT TAGAAACATC
 430 440 450 460 470 480
 AGAAGGCTGT AGACAAATAC TGGGACAGCT ACAACCATCC CTTCAGACAG GATCAGAAGA
 490 500 510 520 530 540
 ACTTAGATGA TTATATAATA CAGTAGCAAC CCTCTATTGT GTCCATCAAA GGATAGAGAT
 550 560 570 580 590 600
 AAAAGACACC AAGGAAGCTT TAGACAAGAT AGAGGAAGAG CAAACAAAAA GAAAGAAAAA
 610 620 630 640 650 660
 AGCACAGCAA GCAGGAGCTG ACACAGGACA CAGCAGCCAG GTCAGCCAAA ATTACCCAT
 670 680 690 700 710 720
 AGTCCAGAAC ATCCAGGGGC AAATGGTACA TCAGGCCATA TCACCTAGAA CTTAAATGC
 730 740 750 760 770 780
 ATGGTAAAAA GTAGTACAAG AGAAGGTTT CAGCCCAGAA GTGATACCCA TGTTTCAGC
 790 800 810 820 830 840
 ATTATCAGAA GGAGCCACCC CACAAGATT AAACACCATG CAAACACAG TGGGGGGACA
 850 860 870 880 890 900
 TCAAGCAGCC ATGCAAATGT TAAAAGAGAC CATCAATGAG GAACTGCCAG AATGGGATAG
 910 920 930 940 950 960
 AGTGCATCCA GTGCATGCCAG GCCCTATTGC ACCAGGCCAG ATGAGAGAAC CAAGGGGAAC
 970 980 990 1000 1010 1020
 TGACATAGCA CGAACTACTA GTACCCCTCA GGAACAAATA GGATGGATCA CAAATAATCC
 1030 1040 1050 1060 1070 1080
 ACCTATCCA GTAGGAGAAA TTTATAAAAG ATGGATAATC CTGGGATTAA ATAAAATAGT
 1090 1100 1110 1120 1130 1140

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*h7
cont*

AAATGTAT AGCCCTACCA GCATTCTGGA CATAAGACAA GGACCAAAAG AACCCTTAG
1150 1160 1170 1180 1190 1200
AGACTATGTA GACCGGTTCT ATAAAACTCT AAGAGCCGAG CAAGCTTCAC AGGAGGTAAA
1210 1220 1230 1240 1250 1260
AAATGGATG ACAGAAACCT TGTTGGTCCA AAATGCCAAC CCAAGATTGTA AGACTATTTT
1270 1280 1290 1300 1310 1320
AAAAGCATTG GGACCAGCAG CTACACTAGA AGAAATGATG ACAGCATGTC AGGGAGTGGC
1330 1340 1350 1360 1370 1380
AGCACCCGGC CATAAGCAA GAGTTTGGC TGAACCAATG AGCCAAGTAA CAAATTCAAGC
1390 1400 1410 1420 1430 1440
TACCATATAATG ATGCAAAGAC GCAATTTCAG GAACCAAAGA AAGATTGTTA AGTGTTCAA
1450 1460 1470 1480 1490 1500
TTGTGGCAAA GAAGGGCACA TAGCCAGAAA TTCCAGGGCC CCTAGGAAAA AGGGCTGTTG
1510 1520 1530 1540 1550 1560
GAAATGTGGA AAGGAAGGAC ACCAAATGAA AGATTGTAAGT GAGAGACAGG CTAATTTTT
1570 1580 1590 1600 1610 1620
AGGGAAAGATC TGGCCCTTCCT ACAAGGGAAG GCCAGGGAAAT TTTCTTCAGA CCAGACCAGA
1630 1640 1650 1660 1670 1680
GCCAACAGCC CCACCAAGAAG AGAGCTTCAG GTCTGGGTA GAGACAACAA CTCCCTCTCA
1690 1700 1710 1720 1730 1740
GAAGCAGGAG CCGATACACA AGGAACGTGTA TCCTTTAAGT TCCCTCAGAT CACTCTTGG
1750
CAACGACCCC TCGTCACAA-

Rule 12
14. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

*B7
cont*

260 270 280 290 300
A TGGGTGCCAG AGCCTCACTA TTAAGCGGGG CAGAATTAGA

310 320 330 340 350 360
TCGATCGGAA AAAATTCCGT TAAGGCCAGG GGGAAAGAAA AAATATAAAAT TAAAACATAT

370 380 390 400 410 420
ACTATGGGCA AGCAGGGAGC TAGAACGATT CGCTGTAAAT CCTGGCCTGT TAGAAACATC

430 440 450 460 470 480
ACAAGGCTGT AGACAAATAC TGGGACAGCT ACAACCATCC CTTCAGACAC GATCAGAAGA

490 500 510 520 530 540
ACTTAGATCA TTATATAATA CAGTAGCAAC CCTCTATTGT GTCCATCAAA CGATAGAGAT

550 560 570 580 590 600
AAAAGACACC AACCGAACCTT TAGACAAGAT AGACCAAGAG CAAAACAAAAA GAAAGAAAAA

610 620 630 640 650 660
AGCACAGCAA GCAGCAGCTG ACACAGGACA CAGCAGCCAG GTCAGCCAAA ATTACCCAT

670 680 690 700 710 720
ACTGCAGAAC ATCCAGGGGC AAATGGTACA TCAGGCCATA TCACCTAGAA CTTAAATCC

730 740 750 760 770 780
ATGGTAAAAA GTAGTAGAAC AGAAGGCTTT CAGCCCCAGAA GTGATACCCA TGTTTCAGC

790 800 810 820 830 840
ATTATCAGAA GGAGCCACCC CACAAGATT AAACACCATG CTAACACACAG TGGGGGGACA

850 860 870 880 890 900
TCAAGCAGCC ATGCAAATGT TAAAAGAGAC CATCAATGAG GAACCTGCCAG AATGGGATAG

910 920 930 940 950 960
AGTCATCCA GTGCATGCCAG GCCCTATTGC ACCAGGCCAG ATGAGAGAAC CAAGGGGAAC

970 980 990 1000 1010 1020
TGACATAGCA GGAACACTA GTACCCCTCA GGAACAAATA GGATGGATGA CAAATAATCC

1030 1040 1050 1060 1070 1080
ACCTATCCCA GTAGGAGAAA TTTATAAAAG ATGGATAATC CTGGGATTAA ATAAAATAGT

1090 1100 1110 1120 1130 1140

*b7
cmt*

AAGAATGTAT AGCCCTACCA GCATTCTGGA CATAAGACAA GGACCAAAAG AACCCTTTAG

1150 1160 1170 1180 1190 1200
AGACTATGTA GACCGGTTCT ATAAAACCTCT AAGAGCCGAG CAAGCTTCAC AGGAGGTAAA

1210 1220 1230 1240 1250 1260
AAATTGGATG ACAGAAACCT TGTTGGTCCA AAATGCCAAC CCAGATTGTA AGACTATTTT

1270 1280 1290 1300 1310 1320
AAAAGCATTG GGACCAGCCAG CTACACTAGA AGAAATGATG ACAGCATGTC AGGGAGTGGG

1330 1340 1350 1360 1370 1380
AGGACCCGGC CATAAGGCCAA GAGTTTGGC TGAAGCAATG AGCCAAGTAA CAAATTCAAGC

1390 1400 1410 1420 1430 1440
TACCATATAATG ATGCAAAGAG GCAATTTTAG GAACCAAAGA AAGATTGTTA AGTGTTCAA

1450 1460 1470 1480 1490 1500
TTGTGGCAAA GAAGGGCACA TAGCCAGAAA TTCCAGGGCC CCTAGGAAAA AGGGCTGTTG

1510 1520 1530 1540 1550 1560
GAAATGTGGA AAGGAAGGAC ACCAAATGAA AGATTGTACT GAGAGACAGG CTAATTTTT

1570 1580 1590 1600 1610 1620
ACGGAAAGATC TGGCCTTCCT ACAAGGGAAAG GCCAGGGAAAT TTTCTTCAGA CCAGACCAGA

1630 1640 1650 1660 1670 1680
GCCAACAGCC CCACCAGAAAG AGAGCTTCAG GTCTGGGGTA GAGACAACAA CTCCCTCTCA

1690 1700 1710 1720 1730 1740
GAAGCAGGAG CCGATAGACA AGGAACGTGA TCCTTTAAGT TCCCTCAGAT CACTCTTGG

1750
CAACGGACCC TCGTCACAA

13. A DNA sequence as claimed in claim 13, wherein the DNA comprises the nucleotides:

B7
cont

670 680 690
AGTGCAGAAC ATCCAGGGGC AAATGGTACA T

and said DNA codes for a peptide having a relative molecular weight of about 25,000 daltons.

14. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

300
TTAGA

310 320 330 340 350
TCGATCGGAA AAAATTCGGT TAAGGCCAGG GGCAAAGAAA AAATATAAAT TAAAACAT.

15. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

GCA AGC AGG GAG CTA GAA CGA TTC GCT GTT.

16. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

GGC CTG TTA GAA ACA TCA GAA GGC TGT AGA CAA ATA CTG GGA CAG
CTA CAA CCA CTT CAG ACA GGA TCA GAA GAA CTT AGA TCA TTA TAT.

17. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

530	540	550	560	570
GTGCATCAAA	GGATAGAGAT	AAAAGACACC	AAGGAAGCTT	TAGACAAGAT
580	590	600	610	620
AGAGGAAGAG	CAAAACAAAA	GTAAGAAAAA	AGCACAGCAA	GCAGCAGCTG
630	640	650	660	670
ACACAGGACA	CAGCAGCCAG	GTCAGCCAAA	ATTACCCCTAT	AGTGCAGAAC
680	690	700	710	
ATCCAGGGGC	AAATGGTACA	TCAGGCCATA	TCACCTAGAA	CTTTAAAT.

18
20. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

GTA GTA GAA GAG AAG GCT TTC AGC.

19
21. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

GGA GCC ACC CCA CAA GAT TTA AAC ACC ATG CTA.

20
22. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

860 870 880 890 900
ATGT TAAAAGAGAC CATCAATGAG GAAGCTGCAG AATGGGATAG
910
AGTGCATCCA GTGCATGCA.

21
23. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

GGC CAG ATG AGA GAA CCA AGG GGA AGT.

22
24. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

980 990 1000 1010 1020
ACTACTA GTACCCTTCA GGAACAAATA GGATGGATGA CAAATAATCC
1030 1040 1050
ACCTATCCA GTAGGAGAAA TTTATAAAAG A.

23
25. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

1130 1140 1150 1160 1170
GGACCAAAAG AACCCTTAG AGACTATGTA GACCGGTTGT ATAAAACCT
1180 1190 1200 1210 1220
AAGAGCCGAG CAAGCTTCAC AGGAGGTAAA AAATTGGATG ACAGAAACCT
1230 1240 1250
TGTTGGTCCA AAATGCGAAC CCAGATTGTA AG.

24
26. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

GGA GTG GGA GGA CCC GGC CAT AAG GCA AGA.

25
27. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

1390 1400 1410 1420
ATG ATGCAAAGAG GCAATTTAG GAACCAAAGA AAGATTGTT.

26
28. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

1460 1470 1480 1490 1500
GGGCACA TAGCCAGAAA TTGCAGGGCC CCTAGGAAAA AGGGCTGTTG
1510 1520 1530 1540 1550
GAAATGTGGA AAGGAAGGAC ACCAAATCAA AGATTGTACT GAGAGACAGG CTA.

27
29. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

1570 1580 1590 1600 1610
ATC TGGCCTTCCT ACAAGGGAAG GCCAGGGAAAT TTTCTTCAGA
1620 1630 1640 1650 1660
GCAGACCAGA GCCAACAGCC CCACCAGAAG AGAGCTTCAG GTCTGGGGTA
1670 1680 1690 1700 1710
GAGACAACAA CTCCCTCTCA GAAGCAGGAG CCGATAGACA AGGAACTGTA T.

28
30. A DNA sequence as claimed in claim 13, wherein the DNA has the sequence:

CTC TTT GGC AAC GAC CCC TCG.

29
31. A cloned DNA sequence of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA is free of particles of said virus and the DNA has the sequence:

1560
TTTTTT

1570 1580 1590 1600 1610 1620
AGGGAAAGATC TGGCCTTCCT ACAAGGGAAG GCCAGGGAAAT TTTCTTCAGA GCAGACCCAGA

1630 1640 1650 1660 1670 1680
GCCAACAGCC CCACCCAGAAG AGAGCTTCAG GTCTGGGTA GAGACAACAA CTCCCTCTCA

1690 1700 1710 1720 1730 1740
GAACCGAGGAG CCGATAGACA AGGAACATGTA TCTTTAACT TCCCTCAGAT CACTCTTGG

1750 1760 1770 1780 1790 1800
CAACGACCCC TCGTCACAAAT AAAGATAGGG GGGCAACTAA AGGAAGCTCT ATTAGATACA

1810 1820 1830 1840 1850 1860
GGAGCAGATG ATACAGTATT AGAAGAAATG AGTTTGCCAG GAAGATGGAA ACCAAAAATC

1870 1880 1890 1900 1910 1920
ATAGGGGGAA TTGGAGGTTT TATCAAAGTA AGACAGTATG ATCAGATACT CATAAAATC

1930 1940 1950 1960 1970 1980
TCTGGACATA AAGCTATAGG TACAGTATTA GTAGGACCTA CACCTGTCAA CATAATTGGA

1990 2000 2010 2020 2030 2040
AGAAATCTGT TGACTCAGAT TGGTTGCCT TTAAATTTTC CCATTAGTCC TATTGAAACT

2050 2060 2070 2080 2090 2100
GTACCCAGTAA AATTAAAGCC AGGAATGGAT GGCCCAAAAG TTAAACAAATG GCCATTGACA

2110 2120 2130 2140 2150 2160
GAAGAAAAAA TAAAGCATT AGTAGAAATT TGTACAGAAA TGGAAAAGGA AGGGAAAATT

2170 2180 2190 2200 2210 2220
TCAAAATG GGCCTGAAAA TCCATACAAAT ACTCCAGTAT TTGCCATAAA GAAAAAAGAC

2230 2240 2250 2260 2270 2280
AGTACTAAAT GGAGAAAATT AGTAGATTTC AGAGAACTTA ATAAGAGAAC TCAAGACTTC

2290 2300 2310 2320 2330 2340
TGGGAAGTTC AATTAGGAAT ACCACATCCC GCAGGGTTAA AAAAGAAAAA ATCAGTAACA

2350 2360 2370 2380 2390 2400

CAGCTGAGAG TGGGTGATGC ATATTTTCA GTTCCCTTAG ATGAAGACTT CAGGAAGTAT
 2410 2420 2430 2440 2450 2460
 ACTGCATTTA CCATACCTAG TATAAACAAAT GAGACACCAAG GGATTAGATA TCAGTACAAT
 2470 2480 2490 2500 2510 2520
 GTGCTTCCAC AGGGATGGAA AGGATCACCA GCAATATTCC AAAGTAGCAT GACAAAAATC
 2530 2540 2550 2560 2570 2580
 TTAGAGCCTT TTAGAAAACA AAATCCAGAC ATAGTTATCT ATCAATACAT GGATGATTG
 2590 2600 2610 2620 2630 2640
 TATGTAGGAT CTGACTTACA AATAGGGCAG CATAGAACAA AAATAGAGGA GCTGAGACAA
 2650 2660 2670 2680 2690 2700
 CATCTGTTGA GGTGGGGACT TACCAACACCA GACAAAAAAC ATCAGAAAGA ACCTCCATTG
 2710 2720 2730 2740 2750 2760
 CTTTGGATGG GTTATGAAC CCATCCTGAT AAATGGACAG TACAGCCTAT AGTGCTGCCA
 2770 2780 2790 2800 2810 2820
 GAAAAAGACA CCTGGACTGT CAATGACATA CAGAAGTTAG TGGGAAAATT GAATTGGGCA
 2830 2840 2850 2860 2870 2880
 AGTCAGATT ACCCAGGGAT TAAACTAAGG CAATTATGTA AACTCCTTAG AGGAACCAAA
 2890 2900 2910 2920 2930 2940
 GCACTAACAG AAGTAATACC ACTAACAGAA GAAGCAGAGC TAGAACTGGC AGAAAAACAGA
 2950 2960 2970 2980 2990 3000
 GACATTCTAA AAGAACCAAGT ACATGGAGTG TATTATGACC CATCAAAAGA CTTAATAGCA
 3010 3020 3030 3040 3050 3060
 GAAATACAGA AGCAGGGCA AGGCCAATGG ACATATCAA TTTATCAAGA GCCATTAAA
 3070 3080 3090 3100 3110 3120
 AATCTGAAAA CAGGAAAAATA TGCAAGAACG AGGGGTGCC ACACTAATGA TGAAAACAA
 3130 3140 3150 3160 3170 3180
 TTAACAGAGG CAGTGCAGAA AATAACCACA GAAAGCATAG TAATATGGG AAAGACTCCT
 3190 3200 3210 3220 3230 3240
 AAATTTAAC TACCCATACA AAAGGAAACA TGGAACACAT GGTGGACAGA GTATTGGCAA
 3250 3260 3270 3280 3290 3300
 GCCACCTGGA TTCCCTGAGTG GGAGTTGTC AATACCCCTC CTTAGTGAA ATTATGCTAC
 3310 3320 3330 3340 3350 3360
 CAGTTAGAGA AAGAACCCAT AGTAGGAGCA GAAACGTTCT ATGTAGATGG GCCAGCTAGC
 3370 3380 3390 3400 3410 3420
 AGGGAGACTA AATTAGGAAA ACCAGGATAT GTTACTAATA GAGGAAGACA AAAAGTTGTC

3430 3440 3450 3460 3470 3480
 ACCCTAAGT ACACAACAAA TCAGAAGACT GAGTTACAAG CAATTCACT AGCTTTGCAG
 3490 3500 3510 3520 3530 3540
 GATTCGGGAT TAGAAGTAAA TATAGTAACA GACTCACAAT ATGCATTAGG AATCATTCAA
 3550 3560 3570 3580 3590 3600
 GCACAACCAAG ATAAAAGTGA ATCAGAGTTA GTCAATCAA TAATACAGCA CTTAATAAAAA
 3610 3620 3630 3640 3650 3660
 AAG..AAAAA TCTATCTGGC ATGGGTACCA GCACACAAAG GAATTGGAGG AAATGAACAA
 3670 3680 3690 3700 3710 3720
 GTAGATAAAAT TAGTCAGTGC TCGAATCAGG AAAGTACTAT TTTTAGATGG AATAGATAAG
 3730 3740 3750 3760 3770 3780
 GCCCAAGATG AACATGAGAA ATATCACAGT AATTGGAGAG CAATGGCTAG TGATTTAAC
 3790 3800 3810 3820 3830 3840
 CTGCCACCTG TAGTAGCAAA AGAAAATAGTA GCCAGCTGTC ATAAATGTCA GCTAAAAGGA
 3850 3860 3870 3880 3890 3900
 GAAGCCATGC ATGGACAAAGT AGACTGTAGT CCAGGAATAT GGCAACTAGA TTGTACACAT
 3910 3920 3930 3940 3950 3960
 TTAGAAGGAA AAGTTATCCT GGTAGCAGTT CATGTAGCCA GTGGATATAT AGAAGCAGAA
 3970 3980 3990 4000 4010 4020
 GTTATTCCAG CAGAAACAGG GCAGGAAACA GCATACTTTC TTTAAAATT AGCAGGAAGA
 4030 4040 4050 4060 4070 4080
 TGGCCAGTAA AAACAATACA TACAGACAAAT GGCAACCAATT TCACCAAGTAC TACGGTTAAG
 4090 4100 4110 4120 4130 4140
 GCGCCCTGTT CGTGGGCGGG AATCAAGCAG GAATTTGGAA TTCCCTACAA TCCCCAAAGT
 4150 4160 4170 4180 4190 4200
 CAAGGAGTAG TAGAATCTAT GAATAAAGAA TTAAAGAAAA TTATAGGCCA GGTAAGAGAT
 4210 4220 4230 4240 4250 4260
 CAGGCTGAAC ATCTTAAGAC ACCAGTACAA ATGGCACTAT TCATCCACAA TTTAAAAGA

4270 4280 4290 4300 4310 4320
 AAAGGGGGGA TTGGGGGGTA CAGTGCAGGG GAAAGAATAG TAGACATAAT AGCAACAGAC

 4330 4340 4350 4360 4370 4380
 ATACAAACTA AAGAATTACA AAAACAAATT ACAAAAAATTG AAAATTTCG GTTTTATTAC

 4390 4400 4410 4420 4430 4440
 AGGGACAGCA GAGATCCACT TTGGAAACGA CCAGCAAAGC TCCTCTGGAA AGGTGAAGGG

 B7
 4450 4460 4470 4480 4490 4500
 GCAGTAGTAA TACAAGATAA TAGTGACATA AAAGTAGTGC CAAGAAGAAA AGCAAAGATC

 4510 4520 4530 4540 4550 4560
 ATTAGGGATT ATGGAAAACA GATGGCAGGT CATGATTGTG TGGCAAGTAG ACAGGATGAG

 4570 4580 4590 4600 4610 4620
 GATTAGAACCA TGAAAAGTT TAGTAAACCA CCATATGTAT GTTTCAGGGAA AAGCTAGGGG

 4630 4640 4650 4660 4670 4680
 ATGGTTTAT AGACATCACT ATGAAAGCCC TCATCCAAGA ATAAGTTCAAG AAGTACACAT

 4690 4700 4710 4720 4730 4740
 CCCACTAGGG GATGCTAGAT TGGTAATAAC AACATATTGG GGTCTGCATA CAGGAGAAAG

 4750 4760 4770 4780 4790 4800
 ACACTGGCAT CTGGTCAGG GAGTCTCCAT AGAATGGAGG AAAAAGAGAT ATAGCACACA

 4810 4820 4830 4840 4850 4860
 ACTAGACCCCT GAACTAGCAG ACCAACTAAT TCATCTGTAT TACTTTGACT GTTTTCAGA

 4870 4880 4890 4900 4910 4920

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 & DUNNER
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LCTGTTATA AGAAAGUCCT TATTAGCACA TATAGTTAGC CCTAGGTGTG AATATCAAGC
4930 4940 4950 4960 4970 4980
AGGACATAAC AAGGTAGGAT CTCTACAAATA CTTGGCACTA GCAGCATTAA TAACACCAAA
4990 5000 5010 5020 5030 5040
AAAGATAAAG CCACCTTTGC CTAGTGTAC GAAACTGACA GAGGATAGAT GGAACAAAGCC
5050 5060 5070 5080
CCAGAAGACC AAGGGCCACA GAGGGAGCCA CACAATGAAT CGACAC -

hjt

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1775 K STREET, N. W.
WASHINGTON, D. C. 20006
(202) 293-6850

30
32. A cloned DNA sequence of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA is free of particles of said virus and the DNA ^{has} ~~contains at least a portion of~~ the sequence:

P

5670 5680 5690 5700
A AAGAGCAGAA CACAGTGGCA ATGAGAGTGA

5710 5720 5730 5740 5750 5760
AGGAGAAAATA TCAGCACTTG TGGAGATGGG CCTGGAAATG GGGCACCATG CTCCCTGGGA

5770 5780 5790 5800 5810 5820
TATTGATGAT CTGTAGTGCT ACAGAAAAAT TCTGGGTAC AGTCTATTAT CGGCTACCTG

5830 5840 5850 5860 5870 5880
TGTGGAAGGA AGCAACCACC ACTCTATTT GTGCATCAGA TGCTAAAGCA TATGATACAG

5890 5900 5910 5920 5930 5940
AGGTACATAA TGTTTGGGCC ACACATGCCT GTGTACCCAC AGACCCCCAAC CCACAAGAAC

5950 5960 5970 5980 5990 6000
TAGTATTGGT AAATGTGACA GAAAATTTA ACATGTGGAA AAATGACATG GTAGAACAGA

6010 6020 6030 6040 6050 6060
TGCATGAGGA TATAATCACT TTATGGGATC AAAGCCTAAA CCCATGTGTA AAATTAACCC

6070 6080 6090 6100 6110 6120
CACTCTGTGT TAGTTAAAG TGCACGTATT TGGGAATGC TACTAATACC AATAGTAGTA

6130 6140 6150 6160 6170 6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT

6190 6200 6210 6220 6230 6240
TCAATATCAG CACAAGCTA AGAGGTAAGG TCCAGAAAGA ATATGCATT TTTTATAAAC

6250 6260 6270 6280 6290 6300
TTGATATAAT ACCAATAGAT AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

6310 6320 6330 6340 6350 6360
CAGTCATTAC ACAGGCCTGT CCAAAGGTAT CCTTGAGCC AATTCCCATA CATTATTGTG

6370 6380 6390 6400 6410 6420
CCCCGGCTGG TTTTGGGATT CTAAAATGTA ATAATAAGAC GTTCAATGGA ACAGGACCAT

6430 6440 6450 6460 6470 6480
 GTACAAATGT CAGCACAGTA CAATGTACAC ATGGAATTAG GCCAGTACTA TCAACTCAAC
 6490 6500 6510 6520 6530 6540
 TGCTGTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTCACAG
 6550 6560 6570 6580 6590 6600
 ACAATGCTAA AACCATAATA CTACACCTGA ACCAATCTGT AGAAAATTAAT TGTACAAGAC
 6610 6620 6630 6640 6650 6660
 CCAACAACAA TACAAGAAAA AGTATCCGT A TCCAGAGGGG ACCAGGGAGA GCATTTGTTA
 6670 6680 6690 6700 6710 6720
 CAATAGGAAA AATAGGAAAT ATGAGACAAG CACATTGTA CATTAGTAGA GCAAAATGCCA
 6730 6740 6750 6760 6770 6780
 ATGCCACTTT AAAACAGATA GCTAGCAAAT TAAGAGAAC A ATTTGGAAAT AATAAAACAA
 6790 6800 6810 6820 6830 6840
 TAATCTTAA GCAATCCTCA CGAGGGGACC CAGAAATTGT AACCCACAGT TTTAATTGTC
 6850 6860 6870 6880 6890 6900
 GAGGGGAATT TTTCTACTGT AATTCAACAC AACTGTTAA TAGTACTTGG TTTAATAGTA
 6910 6920 6930 6940 6950 6960
 CTTGGACTAC TGAAGGGTCA AATAACACTG AACGAAAGTCA CACAATCACA CTCCCATGCCA
 6970 6980 6990 7000 7010 7020
 GAATAAAACA ATTATATAAC ATGTGCCAGG AAGTAGGAAA ACCAATGTAT GCCCCTCCCCA
 7030 7040 7050 7060 7070 7080
 TCAGCGGACA AATTAGATGT TCATCAAATA TTACAGGGCT CCTATTAAACA AGAGATGGTG
 7090 7100 7110 7120 7130 7140
 GTAATAACAA CAATGGGTCC GAGATCTTCA GACCTGGAGG AGGAGATATG AGGGACAATT
 7150 7160 7170 7180 7190 7200
 GGAGAAAGTGA ATTATATAAA TATAAAGTAG TAAAAATTGA ACCATTAGGA CTAGCACCCA
 7210 7220 7230 7240 7250 7260
 CCAAGGCCAA GAGAAGAGTG GTGCAGAGAG AAAAAAGAGC AGTGGAAATA GGAGCTTTGT
 7270 7280 7290 7300 7310 7320
 TCCTTGGGTT CTTGGGAGCA GCAGGAAGCA CTATGGGCC ACGGTCAATG ACGCTGACGG
 7330 7340 7350 7360 7370 7380
 TACAGGCCAG ACAATTATTG TCTGGTATAG TGCAGCAGCA GAACAATTG CTGAGGGCTA
 7390 7400 7410 7420 7430 7440

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TTGAGGCGCA ACAGGCATCTG TTGCAACTCA CAGCTGGGG CATCAAGCAG CTCCAGGCAA
7450 7460 7470 7480 7490 7500
GAATCCTGGC TGTGGAAAGA TACCTAAAGG ATCAACAGCT CCTGGGGATT TGGGGTTGCT
7510 7520 7530 7540 7550 7560
CTGGAAAAACT CATTGCAACC ACTGCTGTGC CTTGGAATGC TAGTTGGAGT AATAAAATCTC
7570 7580 7590 7600 7610 7620
TGGAAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAAATTACA
7630 7640 7650 7660 7670 7680
CAAGCTTAAT ACATTCCTTA ATTGAAGAAT CGCAAAACCA GCAAGAAAAG AATGAACAAAG
7690 7700 7710 7720 7730 7740
AATTATTGGA ATTAGATAAA TGGGCAAGTT TGTGGAATTG GTTTAACATA ACAAAATTGGC
7750 7760 7770 7780 7790 7800
TGTGGTATAT AAAAATATTC ATAATGATAG TAGGAGGCTT GCTAGGTTA AGAATAGTT
7810 7820 7830 7840 7850 7860
TTGCTGTACT TTCTATAGTG AATAGAGTTA GGCAGGGATA TTCACCATT ACGTTTCAGA
7870 7880 7890 7900 7910 7920
CCCACCTCCC AACCCCCGAGG GGACCCGACA GGCCCCAAGG AATAGAAGAA GAAACGTGGAG
7930 7940 7950 7960 7970 7980
AGAGAGACAG AGACAGATCC ATTGAGATTAG TGAACGGATC CTTAGCACCT ATCTGGGACG
7990 8000 8010 8020 8030 8040
ATCTGGGAG CCTTGTGCCT CTTCAGCTAC CACCGCTTGA GAGACTTAAT CTTGATTGTA
8050 8060 8070 8080 8090 8100
ACGAGGATTG TCGAACTTCT GGGACCCGAGG GGGTGGGAAG CCCTCAAATA TTGGTGGAAAT
8110 8120 8130
CTCCTACAGT ATTGGAGTCA GGAACCTAAAG AA.

31 A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

5700
ATGAGAGTGA

5710 5720 5730 5740 5750 5760
AGGAGAAATA TCAGCACTTG TGGAGATGGG GGTGGAAATG GGGCACCATG CTCCCTGGGA

5770 5780 5790 5800 5810 5820
TATTGATGAT CTGTAGTGCT ACAGAAAAAT TGTGGGTAC AGTCTATTAT CCCGTACCTG

5830 5840 5850 5860 5870 5880
TGTGGAAGGA AGCAACCACC ACTCTATTTC GTGCATCAGA TGCTAAAGCA TATGATACAG

5890 5900 5910 5920 5930 5940
AGGTACATAA TGTTTGGGCC ACACATGCCT GTGTACCCAC AGACCCCCAAC CCACAAGAAG

5950 5960 5970 5980 5990 6000
TAGTATTGGT AAATGTGACA GAAAATTTA ACATGTGGAA AAATGACATG GTAGAACAGA

6010 6020 6030 6040 6050 6060
TGCATGAGGA TATAATCACT TTATGGGATC AAAGCCTAAA GCCATGTGTA AAATTAACCC

6070 6080 6090 6100 6110 6120
CACTCTGTGT TAGTTAAAG TGCAC TGATT TGGGAATGC TACTAATACC AATAGTAGTA

6130 6140 6150 6160 6170 6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT

6190 6200 6210 6220 6230 6240
TCAATATCAG CACAAGCITA AGAGGTAAGG TGCAGAAAGA ATATGCATT TTTTATAAAC

6250 6260 6270 6280 6290 6300
TTGATATAAT ACCAATAGAT AATGATACTA CCAGCTATAC GTTGACAAAGT TGTAACACCT

6310 6320 6330 6340 6350 6360
CAGTCATTAC ACAGGCCTGT CCAAAGGTAT CCTTGAGCC AATTCCCATA CATTATTGTG

6370 6380 6390 6400 6410 6420
CCCCGGCTGG TTTTGGGATT CTAAAATGTA ATAATAAGAC GTTCAATGGA ACAGGACCAT

6430 6440 6450 6460 6470 6480
GTACAAATGT CAGCACAGTA CAATGTACAC ATGGAATTAG GCCAGTAGTA TCAACTCAAC

6490 6500 6510 6520 6530 6540
TGCTGTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTCACAG

6550 6560 6570 6580 6590 6600
 ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC
 6610 6620 6630 6640 6650 6660
 CCAACAAACAA TACAAGAAAA AGTATCCGT A TCCAGAGGG ACCAGGGAGA GCATTTGTTA
 6670 6680 6690 6700 6710 6720
 CAATAGGAAA AATAGGAAAT ATGAGACAAG CACATTGTA CATTAGTAGA GCAAAATGGA
 6730 6740 6750 6760 6770 6780
 ATGCCACTTT AAAACAGATA GCTAGCAAAT TAAGAGAAC A ATTTGGAAAT AATAAAACAA
 6790 6800 6810 6820 6830 6840
 TAATCTTTAA GCAATCCTCA CGAGGGGACC CAGAAATTGT AACCCACAGT TTTAATTGTG
 6850 6860 6870 6880 6890 6900
 GAGGGCAATT TTTCTACTGT AATTCAACAC AACTGTTAA TAGTACTTGG TTTAATAGTA
 6910 6920 6930 6940 6950 6960
 CTTGGAGTAC TGAAGGGTCA AATAACACTG AAGGAAGTGA CACAATCACA CTCCCATGCA
 6970 6980 6990 7000 7010 7020
 GAATAAAACA ATTATATAAAC ATGTGGCAGG AAGTAGGAAA AGCAATGTAT GCCCCTCCCCA
 7030 7040 7050 7060 7070 7080
 TCAGCGGACA AATTAGATGT TCATCAAATA TTACAGGGCT CCTATTAAACA AGAGATCGTG
 7090 7100 7110 7120 7130 7140
 GTAATAACAA CAATGGGTCC GAGATCTTCA GACCTGGAGG AGGAGATATG AGGGACAATT
 7150 7160 7170 7180 7190 7200
 GGAGAAGTGA ATTATATAAA TATAAAGTAG TAAAAATTGA ACCATTAGGA CTAGCACCCA
 7210 7220 7230 7240 7250 7260
 CCAAGGCAAA GAGAAGACTG GTCCAGAGAG AAAAAAGAGC AGTGGGAATA GGAGCTTGT
 7270 7280 7290 7300 7310 7320
 TCCTTGGGTT CTTGGGAGCA GCAGGAAGCA CTATGGGCC ACAGTCAATG ACGCTGACGG
 7330 7340 7350 7360 7370 7380
 TACAGGCCAG ACAATTATTG TCTGGTATAG TGCAGCAGCA GAACAATTG CTGAGGGCTA
 7390 7400 7410 7420 7430 7440

TTGAGGGCCA ACACCATCTG TTGCAACTCA CAGTCTGGGG CATCAAGGAG CTCCAGGCAA
7450 7460 7470 7480 7490 7500
GAATCCTGGC TGTGGAAAGA TACCTAAAGG ATCAACAGCT CCTGGGGATT TGGGGTTGCT
7510 7520 7530 7540 7550 7560
CTGGAAACT CATTGCACC ACTGCTGTGC CTTGGAATGC TAGTTGGAGT AATAAATCTC
7570 7580 7590 7600 7610 7620
TGGAAACAGAT TTGGAATAAC ATGACCTGGA TGGACTGGGA CAGAGAAATT AACAAATTACA
7630 7640 7650 7660 7670 7680
CAAGCTTAAT ACATTCTTA ATTGAAGAAT CGCAAAACCA GCAAGAAAAG AATGAACAAAG
7690 7700 7710 7720 7730 7740
AATTATTGGA ATTAGATAAA TGGGCAAGTT TGTGGAATTG GTTTAACATA ACAAAATTGGC
7750 7760 7770 7780 7790 7800
TGTGGTATAT AAAAATATTG ATAATGATAG TAGGAGGCTT GCTAGGTTA AGAATAGTTT
7810 7820 7830 7840 7850 7860
TTCTGTACT TTCTATAGTG AATAGAGTTA GGCAAGGATA TTCACCATT ACGTTTCAGA
7870 7880 7890 7900 7910 7920
CCCACCTCCC AACCCCGAGG GGACCCGACA GGCCCGAAGG AATAGAAGAA GAAGGTGGAG
7930 7940 7950 7960 7970 7980
AGAGAGACAG AGACAGATCC ATTCAATTAG TGAACGGATC CTTAGCACTT ATCTGGGAGC
7990 8000 8010 8020 8030 8040
ATCTGGGAG CCTTGTGCCT CTTCAGCTAC CACCGCTTGA GAGACTTACT CTTGATTGTA
8050 8060 8070 8080 8090 8100
ACGAGGATTG TGGAACCTCT GGGACCCAGG GGCTGGGAAG CCCTCAAATA TTGGTGGAAAT
8110 8120 8130
CTCCTACAGT ATTGGAGTCA GGAACCTAAAG AA.

LAW OFFICES
FINNEGAN, HENDERSON
FARABOW, GARRETT
& DUNNER
1775 K STREET, N. W.
WASHINGTON, D. C. 20006
(202) 293-6850

32
34. A DNA sequence as claimed in claim 32 *30*, wherein the DNA contains less than 750 nucleotides and at least one nucleotide sequence selected from the group consisting of:

32
(A) AAT GTG ACA;
(B) AAT GCT ACT;
(C) AAT AGT AGT;
(D) AAC TGC TCT;
(E) AAT ATC AGC;
(F) AAT GAT ACT;
(G) AAC ACC TCA;
(H) AAT AAG ACG;
(I) AAT GGA ACA;
(J) AAT GTC AGC;
(K) AAT GGC AGT;
(L) AAT TTC ACA;
(M) AAC CAA TCT;
(N) AAT TGT ACA;
(O) AAC AAT ACA;
(P) AAC ATT AGT;
(Q) AAT GCC ACT;
(R) AAT AAA ACA;
(S) AAT TCA ACA;
(T) AAT AGT ACT;
(U) AAT AGT ACT;
(V) AAT AGT ACT;

(W) AAT AAC ACT;
(X) AAT ATT ACA;
(Y) AAT GGG TCC;
(Z) AAT GCT AGT;
(AA) AAT AAA TCT;
(BB) AAC ATG ACC;
(CC) AAT TAC ACA; and
(DD) AAC ATA ACA

33
35. A DNA sequence as claimed in claim *34*, wherein the DNA contains not more than about 600 nucleotides.
34
36. A DNA sequence as claimed in claim *34*, wherein the DNA contains less than about 450 nucleotides.

35. A DNA sequence as claimed in claim 32, wherein the DNA has a sequence selected from the group consisting of:

(a)

6100 6110 6120 6130 6140
GAATGC TACTAATACC AATAGTAGTA ATACCAATAG TAGTAGCGGG
6150 6160 6170 6180 6190
GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT TCAATATCAG
6200
CACAAGCATA;

(b)

6260 6270 6280 6290 6300
T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT
6310
CAGTCATTAC;

(c)

6390 6400 6410 6420 6430
A ATAATAAGAC GTTCAATGGA ACAGGACCAT GTACAAATGT
6440
GAGCACAGTA;

(d)

6490 6500 6510 6520 6530
GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC
6540 6550 6560 6570 6580
AATTCACAG ACAATGCTAA AACCATATAA GTACAGCTGA ACCAATCTGT
6590 6600 6610 6620
AGAAATTAAT TGTACAAGAC CCAACAAACAA TACAAGAAAA;

(e)

6860 6870 6880 6890 6900
T AATTCAACAC AACTGTTAA TAGTACTTGG TTTAATAGTA
6910 6920 6930
CTTGGAGTAC TGAAGGGTCA AATAACACTG; and

(f)

7540 7550 7560 7570 7580
GAATGC TAGTTGGAGT AATAAATCTC TGGAACAGAT TTGGAATAAC

7590 7600 7610 7620 7630
ATGACCTGGA TGGAGTGGGA CAGAGAAATT ACAATTACA CAAGCTTAAT.

36 38. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

ATG AGA CTG AAG GAG AAA TAT CAG
CAC TTG TGG AGA TGG GGG TGG AAA.

37 39. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

TCA GAT GCT AAA GCA TAT GAT ACA
GAG GTA CAT AAT GTT TGG GCC ACA.

38 40. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

GTA CCC ACA GAC CCC AAC CCA CAA GAA.

39 41. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

ACA GAA AAT TTT AAC ATG TGG AAA AAT GAC ATG GTA GAA CAG
ATG CAT GAG GAT ATA ATC AGT TTA ATC TGG CAA AGT CTA.

40 42. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

6050 6060 6070 6080 6090 6100
TA AAATTAACC CACTCTGTGT TAGTTAAAG TGCACTGATT TGGGAAATGC
6110 6120 6130 6140 6150
TACTAATACC AATAGTAGTA ATACCAATAG TAGTAGCGGG GAAATGATGA
6160 6170 6180 6190 6200
TGGAGAAAGG AGAGATAAAA AACTGCTCTT TCAATATCAG CACAAGCATA
6210
AGAGGTAAGG TGCAGAAA.

41 43. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

GAT AAT GAT ACT ACC.

BR

LAW OFFICES
FINNEGAN, HENDERSON
FARABOW, GARRETT
& DUNNER
1775 K STREET, N. W.
WASHINGTON, D. C. 20006
(202) 293-6850

42 44. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

6390	6400	6410	6420	6430
CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT	GTACAAATGT
6440	6450	6460	6470	6480
CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC
6540	6550			
AATTCACAG	ACAATTGCTAA	A.		

43 45. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

6570	6580	6590	6600	6610	6620
CTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC	CCAACAACAA	TACAAGAAAA
6630	6640	6650			
AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA.			

44 46. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

6670	6680	6690	6700	6710	6720
AA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACAA	ATTTGGAAAT	
6780	6790	6800	6810		
AATAAAACAA	TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CA.	

45 47. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

6860	6870	6880	6890	6900	6910
TGT	AATTCAACAC	AACTGTTAA	TAGTACTTGG	TTTAATAGTA	CTTGGAGTAC
6920	6930	6940			
TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	C.		

46
48. A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

7070 7080 7090 7100 7110
TTAAC A AGAGATGGTG GTAATAACAA CAATGGGTCC GAGATCTTCA
7120 7130 7140 7150 7160
GACCTGGAGG AGGAGATATG AGGGACAATT GGAGAAGTGA ATTATATAAA

TATAAAGTA.

47
49. A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

7200 7210 7220 7230
CCCA CCAAGGCCAA GAGAAGAGTG GTGCAGAGAG AAAAAAGA.

48
50. A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

7320 7330 7340 7350 7360
G TACAGGCCAG ACAATTATTG TCTGGTATAG TGCAGCAGCA
7370 7380 7390 7400
GAACAATTG CTGAGGGCTA TTGAGGCGCA ACAGCATCTG.

49
51. A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

7450 7460 7470
GC TGTGGAAAGA TACCTAAAGG ATCAACAG.

50
52. A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

7530 7540 7550
C CTTGGAATGC TAGTTGGAGT AATAAATCT.

51
53. A DNA sequence as claimed in claim 32, wherein the DNA has the sequence:

7640 7650 7660 7670 7680
TTA ATTGAAGAAT CGCAAAACCA GCAAGAAAAG AATGAACAAAG

7690 7700
AATTATTGGA ATTAGATAAA TGGGCA.

52 54. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

7830 7840 7850 7860 7870
AGAGTTA GGCAGGGATA TTCACCATTAA TCGTTTCAGA CCCACCTCCC

7880 7890 7900 7910 7920
AACCCCGAGG GGACCCGACA GGCCCGAAGG AATAGAAGAA GAAGGTGGAG

7930 7940
AGAGAGACAG AGACAGATCC ATT.

53 55. A DNA sequence as claimed in claim *32*, wherein the DNA has the sequence:

8010 8020 8030 8040 8050
CTAC CACCGCTTGA GAGACTTACT CTTGATTGTA ACGAGGATTG

8060 8070
TGGAACTTCT GGGACGCAGG GGGTGGGA.

54 56. A cloned DNA sequence of Human Immunodeficiency Virus Type 1 (HIV-1) coding for a peptide having a relative molecular weight greater than 91,000 daltons, wherein the DNA is free of particles of said virus.

55
57. A DNA sequence as claimed in claim *56*, wherein the DNA contains at least one of the following nucleotide sequences:

(A) AAT GTG ACA;
(B) AAT GCT ACT;
(C) AAT AGT AGT;
(D) AAC TGC TCT;
(E) AAT ATC AGC;
(F) AAT GAT ACT;
(G) AAC ACC TCA;
(H) AAT AAG ACG;
(I) AAT GGA ACA;
(J) AAT GTC AGC;
(K) AAT GGC AGT;
(L) AAT TTC ACA;
(M) AAC CAA TCT;
(N) AAT TGT ACA;
(O) AAC AAT ACA;
(P) AAC ATT AGT;
(Q) AAT GCC ACT;
(R) AAT AAA ACA;
(S) AAT TCA ACA;
(T) AAT AGT ACT;
(U) AAT AGT ACT;
(V) AAT AGT ACT;
(W) AAT AAC ACT;